

Class name : SY CSE(IOT)

Rollno : 2007

Urn no : 1022101007

Batch : S1

## EXPERIMENT 5

5. Create user defined functions with different types of function arguments also demonstrate use predefined functions

a) Write a python program to print date, time using date and time functions.

CODE:-

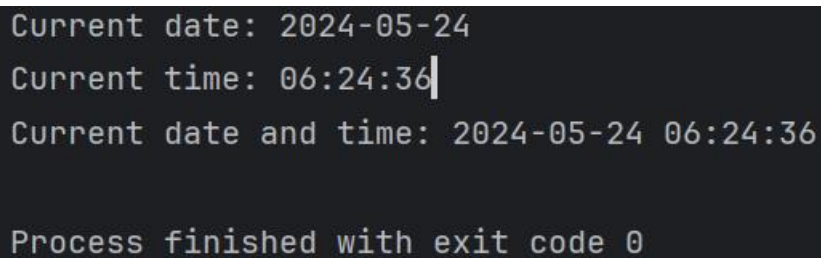
```
from datetime import datetime

current_datetime = datetime.now()

print("Current date:", current_datetime.strftime("%Y-%m-%d"))

print("Current time:", current_datetime.strftime("%H:%M:%S"))

print("Current date and time:", current_datetime.strftime("%Y-%m-%d %H:%M:%S"))
```



```
Current date: 2024-05-24
Current time: 06:24:36
Current date and time: 2024-05-24 06:24:36

Process finished with exit code 0
```

b) Write a python program which accepts the radius of a circle from user and computes the area (use math module).

CODE:-

```
import math

def area():
    radius = int(input("Enter the radius of Circle: "))
    print("Area of Circle = ",(radius**2)*math.pi)

area()
```

OUTPUT:-

```
Enter the radius of Circle: 10
Area of Circle = 314.1592653589793

Process finished with exit code 0
```

c) Write a python program to find the factorial of a number using recursion

CODE:-

```
def rec(x):
    if x==0:
        return 1
    else:
        return x*rec(x-1)
X = int(input("Enter number to find factorial : "))
print("The factrial = ",rec(X))
```

OUTPUT:-

```
Enter number to find factorial : 4
The factrial = 24

Process finished with exit code 0
```

d) Demonstrate the following kinds of Parameters used while writing functions in Python.

i) Positional Parameters ii) Default Parameters  
iii) Keyword Parameters iv) Variable length Parameters

CODE:-

```
def greet(name, message="Good day!"):
    print(f"Hello, {name}! {message}")
```

```
def sum_values(*args):
    total = 0
    for num in args:
        total += num
```

```
    return total

def print_info(**kwargs):
    for key, value in kwargs.items():
        print(f"{key}: {value}")

# Positional Parameters
print("Positional Parameters:")
greet("Alice")

# Default Parameters
print("\nDefault Parameters:")
greet("Bob", "How are you?")

# Keyword Parameters
print("\nKeyword Parameters:")
print_info(name="Charlie", age=25, city="London")

# Variable Length Parameters (positional)
print("\nVariable Length Parameters (positional):")
result = sum_values(1, 2, 3, 4, 5)
print("Sum of values:", result)

# Variable Length Parameters (keyword)
print("\nVariable Length Parameters (keyword):")
print_info(name="David", age=30, city="New York")
```

OUTPUT:-

Positional Parameters:

Hello, Alice! Good day!

Default Parameters:

Hello, Bob! How are you?

Keyword Parameters:

name: Charlie

age: 25

city: London

Variable Length Parameters (positional):

Sum of values: 15

Variable Length Parameters (keyword):

name: David

age: 30

city: New York

Process finished with exit code 0